GEOGRAPHIC NEWS BULLETINS

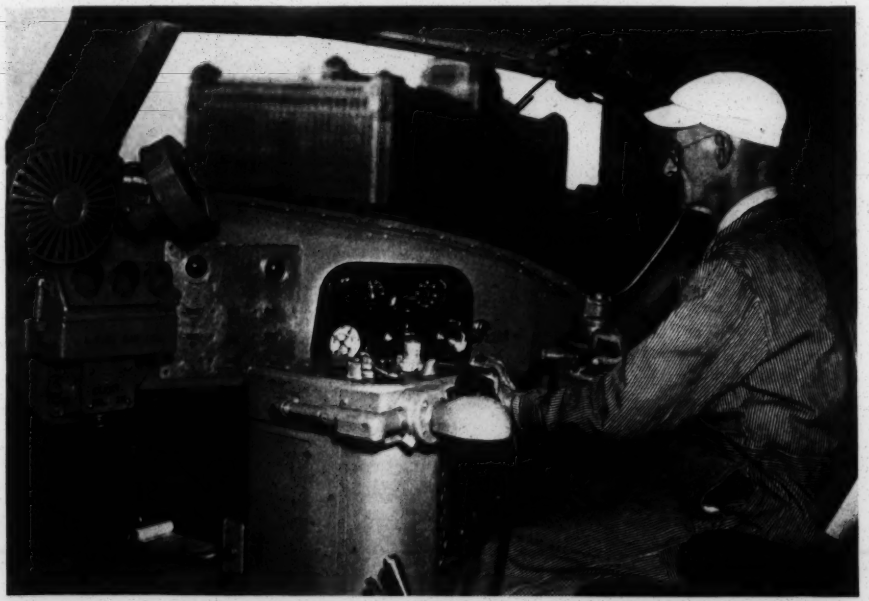
Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(The National Geographic Society is a scientific and educational Society, wholly altruistic, incorporated as a non-commercial institution for the increase of geographic knowledge and its popular diffusion. General Headquarters, Washington, D. C.)

Contents for Week of May 2, 1938. Vol. XVII. No. 11.

1. Tunis Again Makes African Trouble for France
2. Suchow: Target of Tangled Battlelines of Central China
3. The Diesel Engine Looms Large on the Power Horizon
4. Shottery Saved from Suburban Expansion
5. John Muir's Scots Thrift Saved National Parks and Forests



Photograph by J. Baylor Roberts

CLEAN AS AN AUTOMOBILE DASHBOARD IS THE DIESEL CONTROL PANEL

The Diesel locomotive brings a new era of neatness to the engineer, with upholstered chair, straight-ahead view of the tracks, windshield wiper, and never a cinder in the eye. Striking features are the safety devices; he is almost equipped for "blind flying." Instruments on the panel give him light signals for "Stop" and "Go," warning of excessive speed, automatic safety brakes, and indication of switch trouble or collision danger. Through the window appears Chicago's 5-acre Merchandise Mart, which is built directly above railroad tracks (Bulletin No. 3).

HOW TEACHERS MAY OBTAIN THE BULLETINS

The Geographic News Bulletins are published weekly throughout the school year (thirty issues) and will be mailed to teachers in the United States and its possessions for one year upon receipt of 25 cents (stamps or money order); in Canada, 50 cents. Entered as second-class matter, Jan. 27, 1922, Post Office, Washington, D. C., under act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in section 1103, Act of Oct. 3, 1917, authorized Feb. 9, 1922. **Copyright, 1938, by National Geographic Society, Washington, D. C. International copyright secured. All rights reserved. Quedan reservados todos los derechos.**

UMI

GEOGRAPHIC NEWS BULLETIN

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge)

General Headquarters, Washington, D. C.

Tunis Again Makes African Trouble for France

FRENCH troops marched and countermarched through the streets of Tunis recently, and sultry tempers added to the tension of the sultry African scene. Arab Nationalists in the native quarter staged outbreaks against police authority, and military forces were speedily ordered on the scene to maintain martial law.

French authority is maintained by a delicate balance, since French nationals are definitely in the minority in the city. Of the 200,000 inhabitants of Tunis, almost one-fourth are Italians, and French comprise only about one-sixth.

Tunisia One-Fourth Size of France

Tunis is the capital and principal gateway to Tunisia, a vast region nearly one-fourth the size of continental France, spreading from the Mediterranean into the deserts of north Africa.

In reality, Tunis is two cities in one—the native quarter and the modern European quarter. The latter offers nothing new to Western travelers who have stopped off the beaten path of tourist travel in search of marked contrasts, for its streets are wide and clean, its hotels modern, its shops stocked with the same merchandise that is on display in London and Paris. Through it runs a wide boulevard whose strangest feature is that, in its less than mile length, it takes three names. Despite the boulevard's brevity, it is the center of life in Tunis.

Souks Are Mere Holes-in-Walls

The traveler, however, can find contrasts aplenty in the native quarter. Here, in the shadow of a Moslem university, which was 700 years old when Columbus discovered a new world, are the bazaars called the Souks, where tiny cavernlike shops bordering narrow, dim-lighted passageways have for sale articles ranging from cheap paste jewelry to costly tapestries.

Usually two dark-eyed, ruddy-skinned Arabs attend one of the two-by-four shops. As the traveler approaches a shop, noisy salesmen describe the merits of their wares. Before the keeper of one shop has completed his sales talk, the visitor is greeted with another barrage of words from the proprietor of the next.

All the while one feels as though he were in the business district of a little underground city. One dingy shop is adorned with rugs worth hundreds of dollars each.

Snake Charmers and Story Tellers

The next displays rare Indian prints, shawls and articles of silk that tempt the stranger's pocketbook. Turkish slippers, rare perfumes, cut amber beads, articles of silk and an assortment of rich cloth as well as cheap finery also add to the hodgepodge of merchandise. Leaving the bazaar, one is temporarily blinded by the sunlight. When he recovers his sight, he is greeted by snake charmers and storytellers who fascinate crowds of gaping spectators.

A cathedral, a monastery, and a small hotel on the hills overlooking the city mark the site of ancient Carthage, one of the great vanished maritime cities of the ages.

Tunis harbor is a veritable beehive of activity where the bulk of Tunisian products from vast fertile farmlands and orchards of the north, and oases of the southern deserts, begin their journey to foreign markets.

UMI

From Californians, Inc.

WHERE MUIR READ A DEAD GLACIER'S STORY IN THE MOUNTAINS' "MANUSCRIPT": YOSEMITE

When the United States had only one National Park (Yellowstone), Muir advocated making one at Yosemite, California. Geologists explained the deep valley's formation by a mountain upheaval in which the bottom dropped, but Muir advanced the now accepted theory that the valley had been carved by the cold irresistible bulk of glaciers. The Merced River with its many falls (Nevada Fall, right, and Vernal Fall, lower center) flows where a glacier once filled the valley with grinding ice, gouging the rock of cliff faces and prominences like Liberty Cap (center). The water flows from melting snows in the high Sierra background (Bulletin No. 5).

GEOGRAPHIC NEWS BULLETIN

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge)

General Headquarters, Washington, D. C.

Suchow: Target of Tangled Battlelines of Central China

A CHINESE victory at Taierchwang last month was a dramatic episode in the unusually slow and bitterly contested fighting in east Central China. Japanese forces, months ago, occupied the plain around the northern metropolis of Peiping. Equally swift was their southern invasion, plowing inland from Shanghai and capturing the southern capital of Nanking.

To unite their forces, they needed the country's leading north-south railway, doggedly defended by guerrilla warfare. The Chinese triumph at Taierchwang blocked the Japanese march on Suchow, railway keystone of east-central China.

China has three Suchows. Between Nanking and Shanghai lies "Soochow the Beautiful," called the Venice of the Far East, because of its canals. It is also important in Chinese culture as a former capital. In Inner Mongolia an ancient trans-Asiatic caravan trail passes through a remote Suchow between desert and mountains. But the Suchow of the moment is a railroad junction in northeastern Kiangsu, 500 miles south of Peiping, 200 miles north of Nanking. It is also the center for the Lunghai Railroad, an east-west road.

Rail Artery Runs to Western Mountainous Provinces

Main north-south rail artery of China is the Tientsin-Nanking-Shanghai line. Suchow welds together the two halves of the railroad, constructed in 1908-12 by German effort in the north and British management in the south. At Suchow a simplified station architecture proclaims that the southern or British section has begun.

The Lunghai line launches westward through wild mountainous country and reaches the loess highlands dominated by the historic walled city of Sian, a center of luxury and Oriental elegance long before surrounding areas emerged from barbarism. The Lunghai line taps the man power of the rugged western provinces, and brings eastward as well the opium and tobacco from highland fields. The line continues east of Suchow to the Grand Canal and ends at the Yellow Sea port of Haichow.

For part of its east-west progress, the Lunghai railroad parallels an almost empty river bed—an abandoned channel of the capricious Hwang Ho. Once Suchow stood beside the course of China's unmanageable Hwang river giant. Then the river switched its course suddenly in a disastrous flood and roared across country to the sea by a new and more northerly route. The river bed is still crossed by a bridge at Suchow, but the residue of river is extremely small—a mere souvenir of "China's Sorrow," which has changed its seaward course nine times within recorded history.

Here China's South Begins

The city lies at the southern base of Central China's rugged mountain core. From Suchow southward spreads a rich expanse of farming country, covered with flat fields of cotton, grain, peanuts, and watermelons. Grain crops are wheat, millet, and the giant millet known as *kaoliang*. The broad acres of fertile "yellow earth"—rich silt spread over the plain by the departed Yellow River—are broken by small groves of trees and little villages.

The "Good Earth" landscape around Suchow shows that the green south has already begun, changing abruptly from the dry and windy brown north. Rain here is twice as plentiful as it is north of the mountain barrier, and the climate gives definite hints of subtropical intentions. The camel, familiar feature of the north-

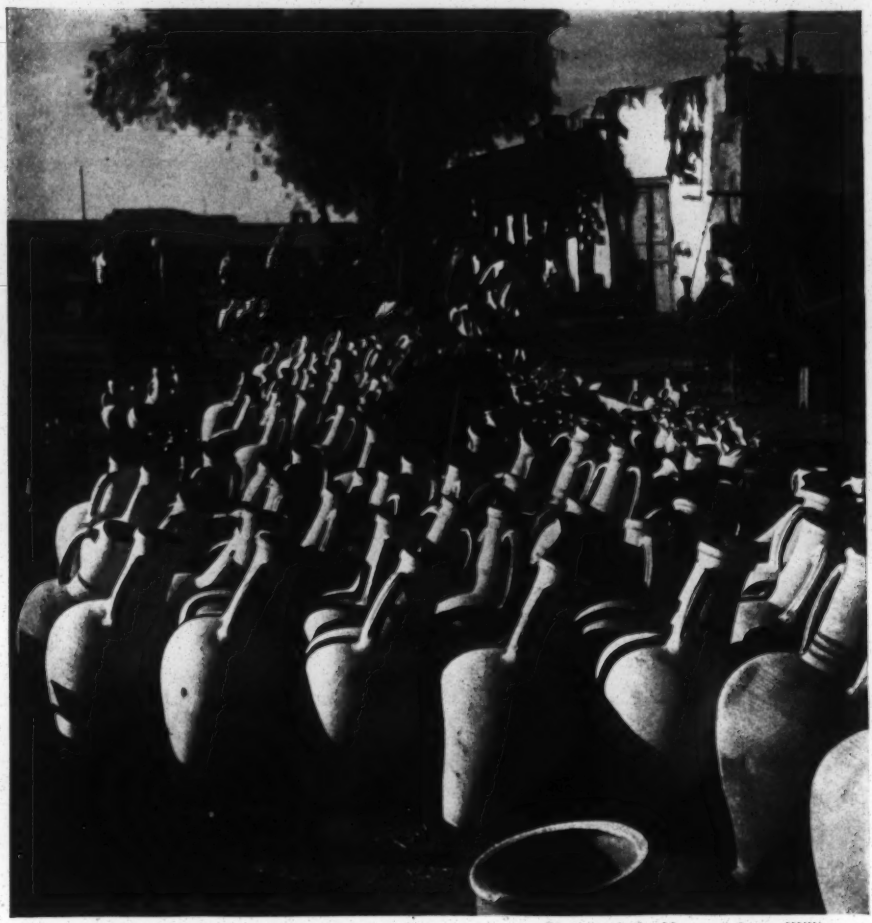
UMI

Note: Additional articles about Tunisia will be found in the following issues of the *National Geographic Magazine*: "Time's Footprints in Tunisian Sands," March, 1937; "Ancient Carthage in the Light of Modern Exploration," April, 1924; "Here and There in Northern Africa," January, 1914; "The Greek Bronzes of Tunisia," January, 1912; "The Sacred City of the Sands," (Kairouan), December, 1911; "The Mole Men: An Account of the Troglodytes of Southern Tunisia," September, 1911; "Tunis of Today," August, 1911; and "The Date Gardens of the Jerid," July, 1910.

French possessions and mandates in Africa may be located on The Society's Map of Africa, issued as a supplement to the June, 1935, *National Geographic Magazine*. Separate copies are 50c on paper, 75c on linen.

See also GEOGRAPHIC NEWS BULLETINS, week of November 22, 1937: "French War Planes Drone Over North Africa."

Bulletin No. 1, May 2, 1938.



Photograph by Maynard Owen Williams

JUGS FOR THE THIRST OF TUNISIA LOLL IN THE MARKET PLACE

Although the potter has studied at Sèvres, France, he still makes two-handled pitchers on a pattern copied from the ancient Greek *amphorae*. Examples of the *amphorae*, surviving from the days of Rome's glory and its African rival, Tunisian Carthage, are preserved in Tunis today in the Bardo Museum, in quarters once occupied by the secluded womenfolk of the Beys. Liquids play an important part in the life of Tunisia, on the northern rim of the Sahara—even in the country's exports. For Tunisian olive oil now competes with the French product, and is widely distributed.

GEOGRAPHIC NEWS BULLETIN

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge)

General Headquarters, Washington, D. C.

The Diesel Engine Looms Large on the Power Horizon

IF YOU plug up the hose of a tire pump, put some tinder under the plunger, and then push it down hard several times, the air compressed under the plunger will become so hot that it will set fire to the tinder. That simple principle today is giving the world a newly important source of power—the Diesel engine.

In a world that is now rapidly shrinking as transportation improves, the Diesel is propelling more and more of the fast new streamlined trains, ocean vessels, busses, tractors, and even airplanes and dirigibles over the land, sea, and air lanes. It supplies power as well for factories, lighting plants, mills, etc.

As a result many people are now asking, "How does a Diesel engine work?"

Pressure, Not Spark Plug, Ignites Diesel Fuel

The Diesel engine is based on the fact that if air is greatly compressed it will become hot enough to set fire to any fuel that comes in contact with it. Both in gasoline engines, such as used in automobiles, and in Diesel engines, power is obtained by an explosion inside a cylinder, which drives a piston outward.

In a gasoline engine a mixture of air and gasoline vapor in the right proportion is sucked into the cylinder by the carburetor. As the piston moves inward in the cylinder, the mixture is compressed about 125 pounds to the square inch, is ignited by an electric spark from a spark plug, and explodes. Gasoline has to be used because a heavier, unrefined oil could not be vaporized sufficiently.

In a Diesel engine there is no carburetor. The incoming piston compresses only pure air inside the cylinder. But this air is compressed much more than in a gasoline engine—to a pressure of 500 to 600 pounds to the square inch. Under this pressure it becomes "red hot." When oil is pumped in, the heat of the air alone is enough to make it explode and drive the piston outward. No electric spark is needed. Neither must the oil be vaporized; so ordinary, heavy fuel oils, much cheaper than gasoline, can be used.

Uses Half as Much Fuel as Gasoline Engine

Diesel engines usually are started by an auxiliary gasoline or electric motor that turns over the Diesel until sufficient pressure is built up to start firing.

A modern Diesel engine, producing the same amount of power as a gasoline engine, uses only about half the amount of fuel, and fuel that is much cheaper than gasoline. This is the chief reason why Diesel engines are becoming more important today. The first successful Diesel engine was designed by a German, Rudolph Diesel, about 40 years ago. Since then Diesels have been greatly improved.

Production of Diesel engines has increased by leaps and bounds. In 1928 the sales of Diesels amounted to about 450,000 horsepower. In 1932 they had dropped to around 100,000, but in 1933 began a steady increase until in 1937 the sales of Diesel engines totalled more than 2,000,000 horsepower. This, of course, is still only a small fraction of the horsepower of gasoline engines produced.

Nearly half the Diesel horsepower sold last year went into tractor engines. Other sales, in order of importance, were: Stationary engines, 360,000 horsepower; trucks and busses, 215,000; engines for ships and boats, 161,000; contractors' equipment, 106,000; railroad engines, 63,000 (illustration cover; next page); unclassified, 215,000. The vast majority of the engines sold were small ones of not more than 100 horsepower.

The world's most powerful Diesel locomotive produces 5,400 horsepower. It

UMI

ern scene, is replaced from Suchow south by the coolie, and wheat grows scarcer and scarcer until it is supplanted by southern rice as the symbol for food. A few miles south of Suchow lies a region locally famous as the watermelon capital. Hemp is also a typical product.

Another valuable resource to which Suchow holds the rail key is coal. A branch line with Suchow connections runs to coal mines from a station about forty miles north.

Note: For additional Chinese material, including many maps and black and white and color photographs, see "Four Thousand Hours over China," *National Geographic Magazine*, May, 1938; "China's Great Wall of Sculpture" and "Hong Kong, Britain's Outpost in China," March, 1938; "The Rise and Fall of Nanking," February, 1938; "Landscaped Kwangsi, China's Pictorial Province," December, 1937; "Changing Shanghai" and "Peacetime Plant Hunting Around Peiping," October, 1937; "Grand Canal Panorama," April, 1937; "Approach to Peiping," February, 1936; "Coastal Cities of China," November, 1934; "Capital and Country of Old Cathay" (duotone insert), June, 1933; "From the Mediterranean to the Yellow Sea by Motor," November, 1932; "Cosmopolitan Shanghai, Key Seaport of China," September, 1932; "Raft Life on the Hwang Ho," June, 1932; and "How Half the World Works," April, 1932.

Bulletin No. 2, May 2, 1938.

Photograph by Willard Price

"OFF WITH ITS HEAD!" IS A STEP IN HARVESTING CHINESE WHEAT

Since the harvest is handled by hand, the bulky sheaves of wheat are cut in two for convenience, and to eliminate some of the waste straw. The harvest "guillotine" consists of a wooden block on a bench, a big knife, and a "headsman." Wheat is among the grains grown in the rich "Good Earth" farming country around Suchow, but it becomes rarer as the subtropical climate is more pronounced on the way south, giving way to rice.

GEOGRAPHIC NEWS BULLETIN

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge)

General Headquarters, Washington, D. C.

Shottery Saved from Suburban Expansion

SAVED: One English village from certain death!

The village is Shottery, birthplace of Anne Hathaway, Shakespeare's wife. "Certain death," in this instance, was suburban expansion of nearby Stratford-on-Avon, whose growing pains threatened to envelop and to absorb one of England's quaintest and most romantic hamlets. Seventeen acres of fields and woodland adjoining the famous Hathaway cottage were last month transferred to the Shakespeare Birthplace Trust, preventing a new housing program from building on the land or destroying the rural aspect of the countryside.

Shakespeare Used Footpath across the Meadows

Only a little over a mile west of Stratford-on-Avon, the village of Shottery is a literary pilgrim's "must" when visiting the Shakespeare country of midland England. Those in a hurry, and most tourists are, may reach it in a few minutes from Stratford by bus. But the true sentimentalist goes afoot, as, says tradition, did the bard himself when wooing the fair Anne. The pleasant pathway winds through rolling pasture, where lush green grass and snow-white daisies "do paint the meadows with delight." Low-lying fields stretch away to hedgerows and trees, some singly and some in clumps, with cattle resting in the shade of giant elms—"the Warwickshire weed."

Nearing the village the footpath passes Shottery Manor and presently, through the trees, one catches a glimpse of black and white cottages with heavy thatched roofs. Shottery is a tiny place, but, even if the Hathaway Cottage had not brought it world fame, the village would be attractive as a bit of Elizabethan England. Along a narrow lane the post office, the Bell Inn, a blacksmith shop and several old houses with bulging walls and bottle-glass windows seem to huddle together for protection as they did in the old days when the open country and roadsides were unsafe haunts of robbers and highwaymen.

At the northern end of the town is the Hathaway Cottage—although "cottage" does not seem to be the right word to describe this long, two-story house containing a dozen or more rooms. Nevertheless, with its enveloping orchard, thick hedges, beautiful old flower garden, half-timbered walls and blanket of thatch it is a picture dream come true.

One of Europe's Chief Shrines

No palace in Europe attracts more visitors than this humble farmhouse, where for three centuries the world has speculated upon the love scenes between Anne Hathaway and the creator of Romeo and Juliet, of Miranda and Ferdinand, of Beatrice and Benedick, of Bassanio and Portia, of Rosalind and Orlando, although it seems more likely that Shakespeare did his wooing along willow-shaded Shottery Creek rather than under the stern parental eye.

The homestead was used by the Hathaway family and their descendants from the time of Henry VIII until about a century ago. In 1892 it was bought for the nation by the trustees of Shakespeare's Birthplace for £3,000. Since then the grounds and the interior of the house have been sympathetically restored in a homely, comfortable manner.

After paying a shilling the visitor walks up a flagstone path along beds of roses, lavender, thyme and nodding hollyhocks to the door. Overhead tiny latticed windows peer out under bushy eyebrows of thatch. Swallows flit about the eves

UMI

consists of three cars or units coupled together, controlled from one car, and can haul a 14-car streamlined train at 100 miles per hour or more. The locomotive units total 209 feet in length and the train is nearly a quarter of a mile long.

Diesel engines are used to some extent in passenger automobiles in Europe, where gasoline is expensive, but there is no immediate prospect of such a use for them in the United States. Diesel engines for automobiles would have to be larger, heavier, and more expensive than the engines now used.

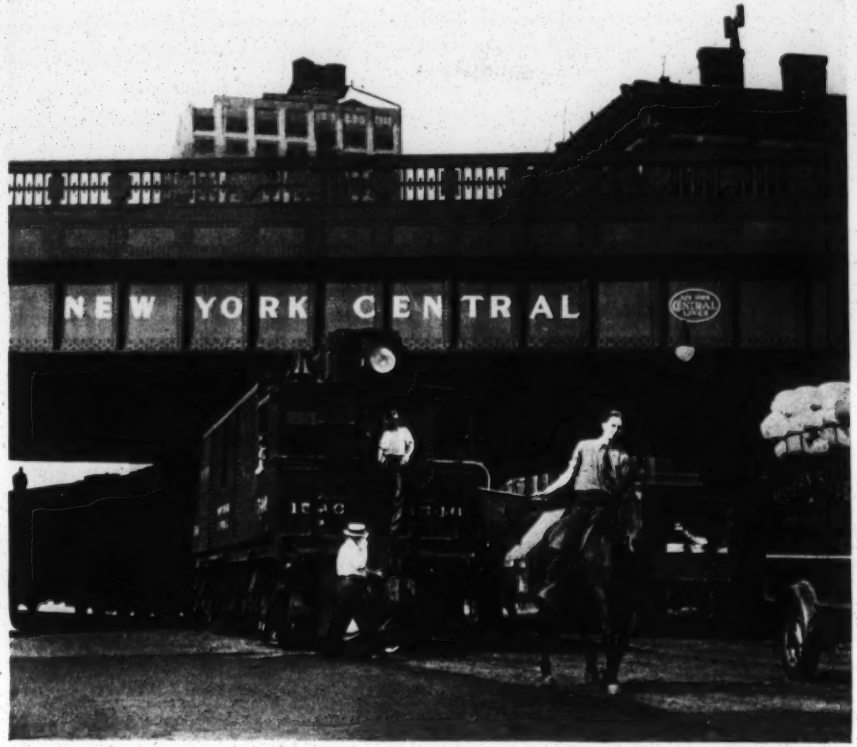
Engineers believe, however, that Diesel engines may be widely used in trucks, busses, tractors, and machinery where slower engines are used and fuel cost is important.

One disadvantage of Diesel engines has been that they must be heavier than gasoline engines because of the greater pressures developed in them. Recent improvements have made it possible to reduce weight, and experiments now are under way in the use of Diesels in airplanes, where lightness of weight is important.

Note: The use of the Diesel engine in American trains is described in "Trains of Today and Tomorrow," *National Geographic Magazine*, November, 1936.

See also GEOGRAPHIC NEWS BULLETINS: "Riding the Rails on a Streamliner," week of November 16, 1936; and "Not all of World's Transport Is Streamlined," week of March 18, 1935.

Bulletin No. 3, May 2, 1938.



Photograph by J. Baylor Roberts

DIESEL LOCOMOTIVES BECOME THE "TUGBOATS" OF THE RAILROAD YARDS

For switching engines, transferring trainloads from track to track within railroad and terminal yards, covering hundreds of miles without going anywhere, the Diesel switching engines travel as far on one tank-car-load of fuel oil as a steam switching engine can go on 12 carloads of coal. Along with such modern progress survived the quaint practice, required by law until a few months ago, that a horseback rider wave a red flag to warn of the train's approach on a spur track along Tenth Avenue, New York City.

GEOGRAPHIC NEWS BULLETIN

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge)

General Headquarters, Washington, D. C.

John Muir's Scots Thrift Saved National Parks and Forests

A GENERATION after his death in 1914, John Muir is being remembered for the trees and mountains he befriended. His centennial year opened on April 21; but with the more generous view of time which his nature studies encouraged, the centennial celebration is being allowed to lapse until summer, when weather opens up the California areas with which he was so closely associated.

The commemoration of John Muir is most appropriate in schools, because of his teaching both in and out of classrooms, and in National Parks and National forests, because of his share in setting them aside. Long before an alarmed public began asking for flood control and conservation of water supply and timber, Muir was the voice of a prophet crying in the wilderness, "Save our trees!"

In May, 1903, he guided President Theodore Roosevelt into the mountains at Yosemite for a secluded four-day camping trip; thereafter Roosevelt doubled the number of National Parks and added 148 million acres to forest preserves.

Came from Scotland To Settle in Wisconsin

John Muir's first acquaintance with nature came in his native Scotland, from the tide pools on the rocky North Sea shore at Dunbar and the bird nests of the town's trees. He started to school before he was three years old, with his first book tied in a bag hung round his neck. Excursions into the country were welcome escapes from spelling and English lessons and his memorizing of the Bible.

A six-week Atlantic crossing in a sailing vessel, when he was eleven, and the whole family's removal to a Wisconsin farm about ten miles outside the town of Portage made "a sudden plash of wildness" in John Muir's life. He saw with a child's eager curiosity the humble country creatures that most Americans have taken for granted since earliest memory—bull frogs bellowing "Jug o' rum!" down in the pond, and the whippoorwill startlingly glib with his well-worded call. A meadow covered at night with flashing lightning-bugs was such an unheard-of wonder that John inquired if his brother too saw anything queer before he believed his eyes.

Visited Trees on Every Continent

After 1860, even the delights of the farm's lake could no longer keep young Muir away from another unknown country—formal education. The University of Wisconsin lured him, although with only fifty cents a week in his food budget.

Teaching appealed to him as a money-making solution, and during the spring term of 1862 he turned schoolmaster at the small school of Oak Hill, Wisconsin, meanwhile continuing his university studies at night. At first as ill at ease as "a mud-turtle upside down on a velvet sofa," he soon mastered all classroom techniques except the required vigor in switching his pupils.

But John Muir couldn't stop learning long enough to teach. The University soon claimed his whole time again, and the next financial puzzles were solved by a job in an Indianapolis wagon factory. An injury which threatened blindness to his right eye, however, startled Muir into a determination to see his favorite plants and trees while he could. The result was a thousand-mile stroll from Kentucky to the Florida coast on the Gulf of Mexico.

Thereafter the Scottish naturalist's long life was spent on nature's own trails. His love of forests lured him to South America, to cruise a thousand miles up the

UMI

and tall brick chimneys. In such a setting there is an irresistible urge to whip out one's camera and capture the scene in film. But no, picture-making is not allowed within the garden or house. One must either buy a postcard, or photograph from tiptoe outside the hedge on the public road.

Courting Settle Used by Hathaways

The furnishings of the cottage are of genuine interest, although many of them are of the Shakespeare period rather than possessions of the family. Exceptions are the courting settle (illustration below), some old oak chests, a four-poster bed of the Tudor period, and a few benches—all of which were in actual use by the Hathaway family for years.

Interior decorators are attracted to the fine Jacobean panelling in the parlor, the immense chimney corners and the quaint open hearths. Latticed windows look out on garden and orchard and all that peaceful tranquillity which is rural England at its best.

Note: Pictures of and references to Shottery Cottage and the rest of the Shakespeare country will be found in "How Warwick Was Photographed in Color," *National Geographic Magazine*, July, 1936; "Vagabonding in England," March, 1934; "The Beauties of the Severn Valley," April, 1933; "Visit to the Old Inns of England," March, 1931; "From Stratford to the North Sea," (color insert), May, 1929; and "Through the Heart of England in a Canadian Canoe," May, 1922.

Shottery and other famous historical shrines may be located on "The Modern Pilgrim's Map to the British Isles," published in the June, 1937, issue of *The Geographic*. Additional copies may be obtained at 50c (on paper) and $1.00 (on linen).

Bulletin No. 4, May 2, 1938.

Photograph by Douglas J. McNeille

SENTIMENT HAS PRESERVED AN ELIZABETHAN FARMHOUSE

Were it not for its association with the Hathaway-Shakespeare romance, the Hathaway Cottage at Shottery might have gone the way of many another ancient structure which outlived its usefulness or was altered with modern improvements. The courting settle (high-backed bench behind the black curtain) is believed to be part of the furnishings of Shakespeare's time. It is pointed out as the place where the two sat before the fire during their courting days, but it is more likely that the youthful sweethearts met elsewhere, possibly along willow-shaded Shottery Brook or in the orchard.

Amazon almost within reach of the jungle along the banks, and to see the strange ancient *Araucaria* trees. The baobab tree lured him to Africa. Forests were his main attractions on visits to Siberia and Japan. Always glaciers too were his well-stalked prey, so much so that his last book, "Travelers in Alaska," is full of ice.

Travels, however, served only to confirm his opinion that "no mountain-range seems to me so kind, so beautiful, or so fine in its sculpture as the Sierra Nevada" of California. Protecting its trees and wild life and studying its primeval biography as written in river-eroded canyons and glacier-gouged valleys became his life work. Writing was for John Muir a way of enlisting recruits in his standing army of conservation. Today his name also lives in a forest—Muir Woods National Monument—near San Francisco, and in Muir Glacier, in Alaska.

Note: See also "Northern California at Work," *National Geographic Magazine*, March, 1936; "Among the Big Trees of California," August, 1934; "Under the South African Union," April, 1931; "Amazon, Father of Waters," and "Exploring the Valley of the Amazon in a Hydroplane," April, 1926.

Bulletin No. 5, May 2, 1938.

Photograph by Lindley Eddy

"PREACH THE GREEN BROWN WOODS TO ALL THE JUICELESS WORLD"

In a letter written with purple Sequoia sap, John Muir called the Sequoias "columns of sunshine," because they are the largest symbols of the plant kingdom's diet of light. He wrote that God had saved the giant trees from avalanches, drought, lightning, and disease for three thousand years, but "cannot save them from fools—only Uncle Sam can do that." His appeal resulted in the creation of national forest preserves which lumbermen were not allowed to cut. Today the "King Sequoia" can be visited in California's national parks. Bears once raided the provisions for a camping party, and Muir had to hike 40 miles to replace the food. Now bears beg peaceably from tourists.

UMI